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The Public Health Journal

OFFICIAL ORGAN

Canadian Public Health Association

Vol. XI

SEPTEMBER, 1920

No. 9

SPECIAL ARTICLES

THE ROLE OF THE LABORATORY IN THE CONTROL OF VENEREAL DISEASES

R. H. MULLIN, B.A., M.B.

INDUSTRIAL DUST

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CONTROL AND REHABILITATION IN CONNECTION WITH THE VENEREAL DISEASE PROBLEM

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The Role of the Laboratory in the Control of Venereal Diseases

By R. H. MULLIN, B.A., M.B.

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Read at the Annual Meeting of the Canadian Public Health Association,
Vancouver, B.C., June 21 and 22, 1920

IN considering the relationship which the laboratory bears to the control of any communicable disease, it is necessary to have a clear conception of what the word "control" embraces, and to be familiar with the general principles upon which are based efforts at control of all communicable diseases, together with such special features as may apply specifically to the particular diseases in question due to inherent peculiarities. It is generally accepted that communicable diseases are caused by micro-organisms, that the only mechanism existing for the spread of these diseases is the transfer of virus laden discharges from the infected to the healthy, and that to a certain extent the virulence of the virus will depend upon how fresh the discharge is.

Until very recently efforts at "control" of communicable diseases were almost altogether applied in the direction of endeavouring to prevent their spread. This is generally conceded to be a function and duty of the community, federal, provincial, county or municipal governments each bearing a certain responsibility for providing as much protection against epidemics as the citizens are willing to pay for by suitable appropriations made by these various governments. Later thought is beginning to indicate the possibility of an additional function of the State. If the individual citizen is looked upon as one of the assets of the state, the value of which depends upon his productivity, then it becomes a function of the state to conserve and preserve such assets by providing such facilities as will keep that individual at his maximum productivity for the longest time. The state is considered to have, if not the entire responsibility for, at least an interest in the health of

each individual citizen. If such reasoning be accepted, then treatment and cure, in part at least can be considered a community responsibility. "Cure" up to the present at least in most communicable diseases, has been a matter, individual and voluntary, with no compulsion save as regards dependents. "Prevention" is undertaken as community effort, demanding compulsion upon the individual, restricting where necessary his personal liberty and movements in the community for which legal mechanisms and police power are required.

In control (both prevention and cure) of any communicable disease, the laboratory has certain definite functions and equally definite limitations—the latter being more readily acknowledged by the laboratory worker than appreciated by the clinician who is only too apt to view it as an instrument of unflinching precision. It must be recognized that the laboratory cannot always give a definite answer to every question. Theoretically, it should be able (a) to identify or discover the causative agent for each disease, (b) to determine which tissues are apt to be infected with the organism, (c) to determine in what discharges the organism leaves the body of the infected individual, (d) to determine the duration of life as a parasite of the organism, (e) to determine who are immune, (f) to produce biologic products for inducing immunity or cure, (g) to produce chemical products for killing the organism in the infected host. How far can these be applied to the venereal diseases and to what extent do these diseases differ from communicable diseases in general?

A study of "Venereal Disease Acts" recently passed in Canada reveals startling features, some of which indicate a decided advance in methods of control especially if their principles can be applied to other infectious diseases. Venereal diseases are the only communicable diseases against which the Federal Government has made an active campaign in money appropriations. Against them are certain restrictions which go far beyond what obtains in other diseases. In all the acts relating to them there is a clause prescribing a fine or gaol penalty for anyone who "commits any act which leads or is likely to lead to infection of another person". There are like penalties for refusing to take or continue treatment. This puts a new responsibility upon the infected and this legal aspect entails the greatest necessity for legal exactitude in addition to scientific accuracy of all data upon which these penalties are sought to be exacted. In these acts the "quarantine" period is not definitely stated in days.

There are other peculiarities, one of which has a direct bearing upon the role of the laboratory. For practical purposes, direct and immediate contact is the only method of spread that needs any consideration.

In syphilis the causative organism has been discovered and certain points for its identification determined. It has been demonstrated in practically all of the tissues and the fact apparently determined that this organism does not appear to have a definite tissue of election—although a preference for certain tissues seems to be exhibited at various stages of the disease. It has been proven to be present and infective in certain exudates, those from open lesions in the skin and mucous membranes, thus definitely fixing such exudates as the most probable and prolific sources of infection. It has not been found in the ordinary dejecta from bowel and bladder; nor in the semen of a latent syphilitic, so that these are improbable but not impossible sources of contagion. In acquired syphilis, the open lesions are the greatest source of contagion. When the spirochete is demonstrated and proved in them, it definitely establishes the case as one of lues—to that the laboratory in such cases is of use in establishing the presence of the disease. The reverse is not true, failure to find the organism does not necessarily or even probably rule out the possibility of its being present. A negative cannot be used to determine the non-infectivity of the suspected individual. The "two successive negatives" principle used in diphtheria control is of no value in lues. So far as the organism itself is concerned, the greatest field for the laboratory lies in an extended and successful study of its biology. Many facts concerning its life history are lacking, facts necessary if the pathology and course of the disease is to be understood and the treatment and control scientifically applied.

Up to the present no method has been found for definitely and surely determining when the spirochetes have been killed in an infected individual. Some believe on various grounds that "once infected, always infected". On the other hand the clinical course of the disease following certain lines of treatment seems to indicate in some cases that the infecting organism has been killed. This is borne out by many vital tests where "successfully" treated individuals have married, and produced children without infection of the other parent or child, indicating at least that the previously infected individual had been rendered non-infectious.

During the last few years, great reliance has come to be placed, as a guide to treatment, on a certain serological procedure called a "Wasserman Test". In the first efforts at control it appeared to be an excellent method for determining a cure and hence for establishing the period of infectivity. Unfortunately its value is not so great as at one time surmised, especially when the idea of using it as a mechanism for control or as a basis for deprivation if individual liberty or other penalty is taken into consideration. For such purposes any test must not only be scientifically accurate, but legally sound. In this respect the so-called

Wasserman test has certain inherent defects, which are not of such great importance when "cure" alone is considered, especially when cure is considered a process purely optional with the individual. In the first place the name does not denote a single procedure but a considerable number of varying procedures, each variety being adopted by certain groups of workers as appearing to give the most accurate results. The fact that greater accuracy is claimed by competent observers for each of certain methods, establishes the fact that the results obtained by all the methods in use are not identical. There is no uniform standard technique in Canada but each laboratory adopts the particular variation which appears at the time best. This will surely lead to serious complications from a control standpoint. The Federal and all the Provincial Governments are making serious efforts at control, but if any reliance is to be placed upon this test, uniformity of technique is essential. Otherwise, a syphilitic individual travelling from Halifax to Vancouver might be placed in the situation, embarrassing alike to himself and all the Governments, of passing through an alternating series of relapses and cures, the number and duration of which would depend solely upon the number of stops and rapidity of transportation. If the complement fixation test is to be employed at all in the control of syphilis, it is essential that a standard technique be employed in all laboratories supplying data to be used in this control. In addition to this standard, each laboratory could, of course, use any variation which appeared to each desirable. The enunciation of such a standard might well be undertaken either by this Association through a suitable committee, or by the Federal Department of Health.

From a legal aspect, this test has another defect since it must be remembered that in attempts at control of this disease, the probability of encountering an astute adverse lawyer, guided by an unscrupulous medical adviser is not without the bounds of possibility and that most people will fight vigorously for both personal liberty and monetary property. The legal soundness of the test must be fully established. Unfortunately it is an empirical and not a specific test ("specific" in the bacteriological usage). The antigen employed bears no relationship whatever to the causative organism; in fact it is frequently produced from the tissues of animals considered immune. The results obtained with the antigens ordinarily employed differ greatly from those obtained from the spirochete, a fact difficult to explain either before a body of scientific men or a judge and jury.

This test is not absolutely accurate in either direction. Positive results have been obtained in certain diseases, such as lead poisoning, yaws, etc., where syphilis could be definitely and certainly excluded, so that a positive result does not always spell lues. On the other hand,

some cases of undoubted and uncured syphilis will give a negative result, especially following certain drugs employed in treatment and of greater importance from a control standpoint, following the use of alcohol. That alcohol vitiates a negative result is so well known that patients are warned not to imbibe for three or four days before the examination. It will not take long for this fact to have general circulation among the laity, the unscrupulous of whom will interpret it backwards—"If you want a negative, get drunk before the test". This will not always work, but it is a danger that cannot be overlooked. Cases of the opposite kind are not unknown, the so called "Wasserman fast" cases where the continued application of arsenic produces no change at all in the reaction but only an arsenical poisoning. Is the state to impose a penalty for refusing to continue treatment in such true cases? What would probably be the ruling of the court if a dishonest person pleaded fear of arsenical poisoning as a reason for refusing treatment?

Again certain variations in results have been obtained under altered conditions. It is realized that in certain cases the intensity of the test may change from day to day through a considerable range for no apparent reason. This is a fact for which no sufficient explanation is as yet available. Variations occur depending upon the body fluid examined. In numbers of cases the spinal fluid will be positive while the blood is negative. Will the state demand an examination of the spinal fluid in every case of syphilis? It must be remembered that lumbar puncture is a surgical operation not without danger in the hands of those unaccustomed to the procedure and frequently attended with considerable pain. It certainly should not be compelled in every case until the state is able to guarantee, by the provision of sufficient experts, that the danger of the operation has been eliminated. Variations in interpretation of results obtain, particularly in cases that have been under treatment, depending upon the time at which the treatment was begun in relation to the stage of the disease. A negative test, obtained in a case in which adequate treatment was begun, soon after infection during the primary stage has a significance, different from one in which the same treatment was not begun until after secondaries had appeared.

Taking all these factors into consideration, it is clear that valuable as the complement-fixation test may be as a guide to treatment, it, by itself, is of very much less value for control purposes. Until further and more accurate data are collected, the clinical signs in syphilis are of greater value in determining the probable infectivity of an individual. Clinical signs reinforced by laboratory data provide a greater degree of safety but it must be admitted that considerable information must be attained by intensive and co-operative methods before a means entirely satisfactory can be devised. Much of the present opinion regarding the

course of lues depends upon data collected by many different observers using different techniques, both on the clinical and laboratory sides. It is impossible to separate clearly the chaff from the wheat. It would seem a safer and more accurate course to disregard entirely the present statistics and to begin the collection of a new set based upon procedures which are attended with a greater degree of uniformity and accurately controlled. In the long run, such a procedure would undoubtedly conserve time and effort and produce results of far greater scientific accuracy.

In gonorrhea, the position is in some respects better. Knowledge of the biology of the organism is of very much wider range. Laboratory cultivation of the organism is much more easily attained. Difficulties in making a diagnosis by laboratory means in acute cases are practically nil, but mechanisms for determining the period of infectivity are very uncertain. Whether or not there is a "latent period" in gonorrhea is a very important point yet to be determined. In the regulations of some localities, two negative smears and absence of discharge are spoken of for the release of the individual. Undoubtedly in females such a procedure is attended with considerable inaccuracy, especially in those cases most anxious for a clean bill and most dangerous to the community, of prostitutes, acknowledged or clandestine. How easy for them, with the assistance of an unscrupulous physician, to obtain a release in the face of manifest lesions. In such cases, it would appear imperative that the taking of such specimens should be in the hands of the properly constituted health authorities. It is impossible however to legislate against any one class in a community so that a very difficult problem is presented since many a woman not a public prostitute will undoubtedly object to such an examination by a public official. Unfortunately the complement fixation test in this disease is not on as firm a foundation clinically as in syphilis in spite of the fact that specific antigens are available. From information at present at hand few would advocate its use as a basis for control.

In both diseases the laboratory has a very important and much needed function of investigation. Much remains to be learned. The biology of both organisms requires further elucidation. A satisfactory method of immunizing and determining the presence of immunity is needed. Biological preparations for treatment are still for the future. Although brilliant results have been obtained with the arsenical preparations at present in use, none would pretend that the goal in this line has been reached. Most of all, for the purposes of control, an accurate and sure means of determining the end of the infectious period is urgently demanded.

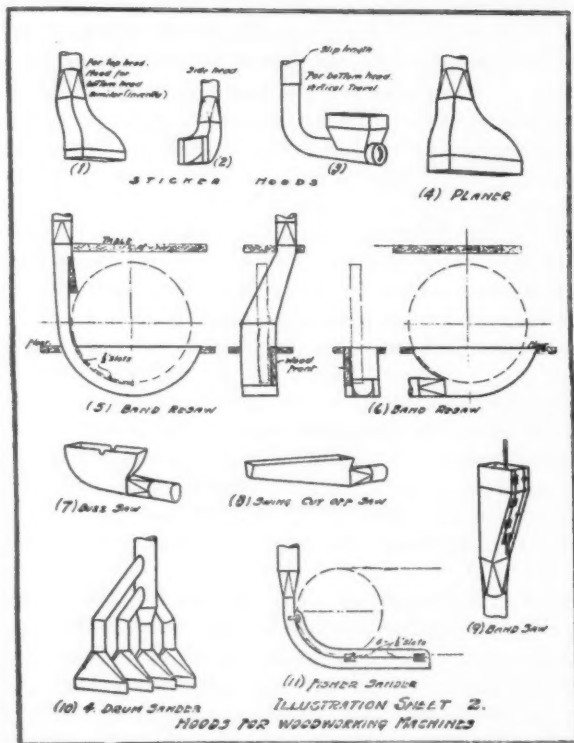
Many doubtless, at first thought, would consider the laboratory with its present facilities the corner stone upon which those efforts at control

necessitating the utilization of police power should be based. More progress will be made if its limitations are clearly recognized by those in whose hands the guidance of these efforts is placed. It must be recognized that in spite of the brilliant results that have been attained in the biology, serology, and therapy of these diseases, laboratory methods alone will not give an infallible answer to the all important question "when is this individual who has been infected safe to return to the full and unrestricted exercise of his citizenship?" With the knowledge available the answer can be only tentative and none too positive. Such as it is, it should be founded upon clinical observations reinforced by the intelligent interpretation of laboratory examinations. This entails, for the greatest degree of accuracy, the closest and most cordial co-operation between these two branches of the service.

Industrial Dust

(Continued from our last issue).

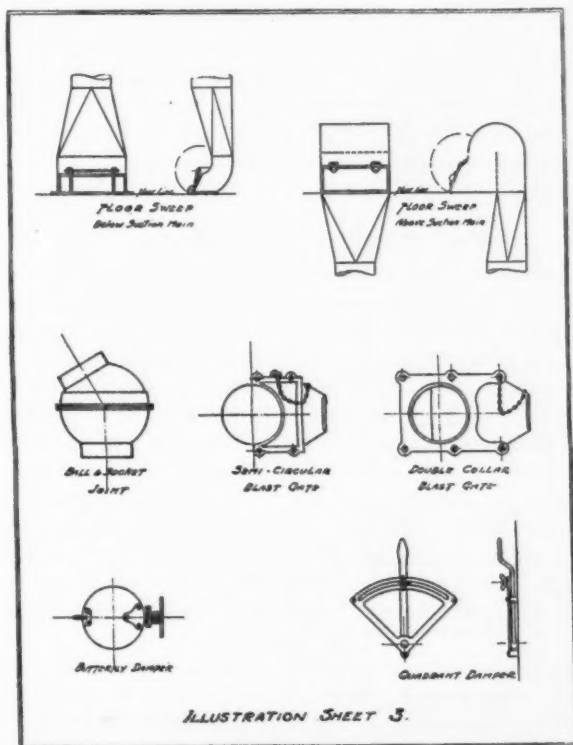
The variety of hoods used in connection with wood-working machines is so great as to make it possible to mention only a few of the most important in this paper. The proper form, proportion and construction of these hoods is a subject very difficult to deal with on paper, as each particular machine differs from machines made for the same purpose by other manufacturers.



On Illustration Sheet No. 3 is shown the regular form of sweep-up as used for collecting the sweepings from the floor of a woodworking factory. The first illustration shows the type of sweep-up used when a branch pipe is overhead. The second illustration shows the type of

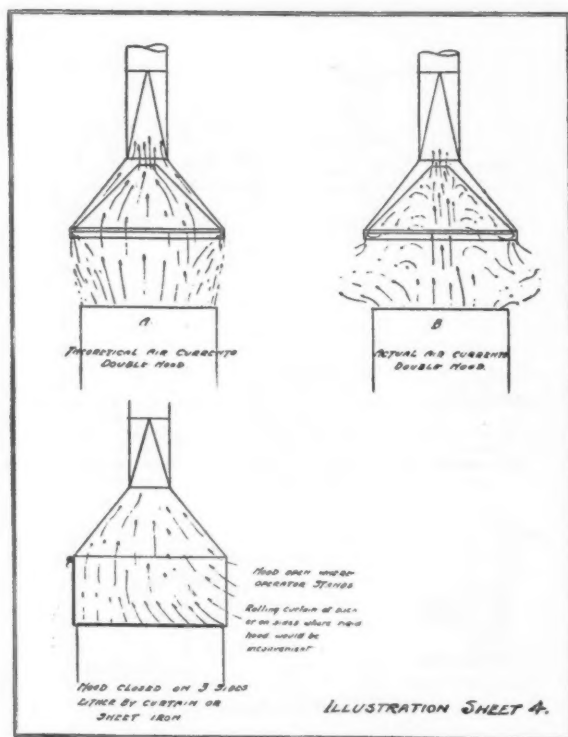
sweep-up used when the exhaust pipe rises from the floor below. On this sheet is also shown an illustration of ball and socket joint, blast-gate, butterfly dampers and quadrant dampers.

There has been considerable discussion in the past as to the merits of what is known as double hoods, which consist of really one hood inside of another, as shown at "A" and "B" illustration sheet No. 4. The object of the double hood is to concentrate a suction at the edges of the hood the theory being that, by creating a high suction at the four



edges of the hood, a strain of high velocity air would surround the vat or tank and prevent the escape of objectionable dust or steam. The direction in which the air is supposed to flow with a hood of this kind is shown at "A." The direction which the air actually takes is shown at "B." Experience has taught that with this type of hood the thin strata of high velocity air which is supposed to extend from the hood to the edge of the tank is actually lost within a few inches from the edge

of the hood. In other words, following the line of least resistance, the air enters the hood in a horizontal as well as a vertical direction and within a foot of the edge of the hood it is impossible to detect any movement of air. The result is that in the event of steam rising from a kettle it will rise directly from the centre of the boiling liquid and, owing to the restricted opening at the top of the double hood, it will be crowded in the hood and much of it will escape into the room as shown at "B." The most satisfactory arrangement for carrying off fumes of this kind



is shown at "D," where a single hood is used, the sides being brought down to the sides of the tank and one side only left open for the entrance of air. The open side should be the one where the operator stands so that fresh air entering the hood will flow over him on its way into the hood. In some cases, where it is impossible to close the rear of the hood off with sheet metal, a curtain can be used similar to an ordinary window blind, but made on a stronger roller so that it can be pulled down to

enclose the space or run up out of the way when it is necessary to work from that side of the tank.

On Illustration Sheet No. 5 is shown a general arrangement of a system for exhausting the dust from the scutching machines, tow dusters and brakes in a flax mill. The flax industry is comparatively new in Canada, and as the process is a very dusty one it is necessary that the machines be connected with a proper exhaust system. This illustration sheet also shows the form of hoods and size of branch pipes required with these machines.

On Illustration Sheet No. 6 is shown a typical arrangement of a ventilating system for a linotype room. With an installation of this kind the metal pot on each machine should be connected with a hood 16 in. in diameter at the base, 12 in. in height, and connecting with a 5 in. pipe. The vertical pipe should be fitted with a slip joint and counter weight so that the hood can be raised up out of the way or taken down entirely when it is necessary to adjust the machine.

It is also important in the case of a linotype room to see that the supply fan and exhaust fan are started when the gas jets under the metal pots are first lit in the morning. It frequently occurs that the engineer or janitor at the building lights the gas under the metal pots an hour or two before the workmen arrive in the morning, but does not start the fans until the workmen enter. The result is that, during the time between the lighting of the gas jets and the starting of the fans, the room has been filled with the products of combustion and oxides of antimony and lead, and by the time the men enter the atmosphere is in a very poisonous condition, as the process of keeping the metal in a molten state gives off large quantities of heated carbon di-oxide, carbon monoxide and water vapours which are disengaged by the burning of the gas beneath the metal pots and the movement of the plunger in the metal which disturbs its surface and scatters the dross into the air.

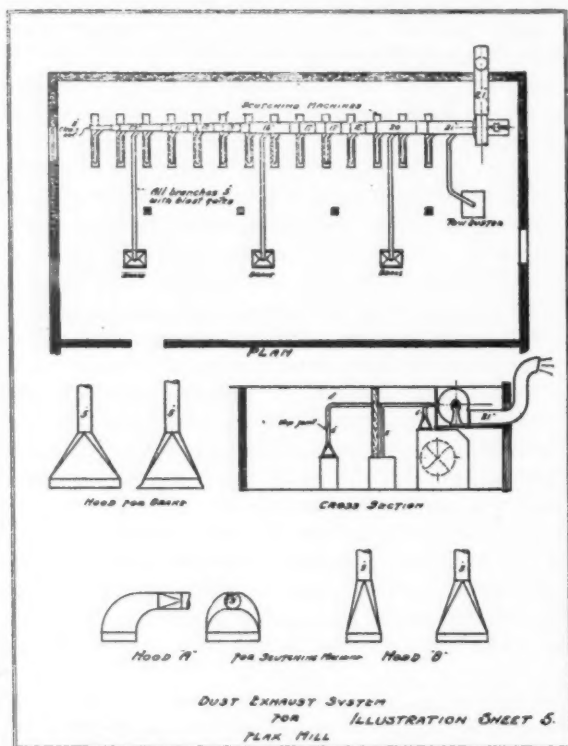
On Sheet No 6 is also shown a supply system for delivering into the room a volume of air slightly in excess of that carried off by the exhaust fan. One of the most common mistakes made in connection with the ventilation of industrial plants is the general impression that an exhaust system is all that is required to produce an ideal condition, whereas when we consider that in the first place an exhaust system to do its work properly must extract from the building a certain definite volume of air every minute, it naturally follows that if the fan actually does what it is required to do, that it would only be a very few minutes before all the air in the building was exhausted, in which case any one of three things would happen, viz:—

1st.—A supply of air at the outside temperature must enter the

building from out of doors in a volume equal to the full capacity of the exhaust fan, or,

2nd.—The capacity of the exhaust fan will be reduced in proportion to the volume of outside air which is permitted to enter, or,

3rd.—If no air from the outside is permitted to enter the building the fan wheel will simply rotate in its case without handling any air.



In summer this condition is not a serious one, but in this country where the winter occupies the greater part of the year it is very important to see that an adequate supply of air at a comfortable temperature be delivered into any room from which air in a large volume is being extracted, otherwise, in the winter months, cold air will enter the building and often times create a condition more objectionable than before any exhaust system was installed, due to the chilling effect of the cold outside air which will condense the moisture in the inside air and produce a condition of fog.

There is one exception to this statement and that occurs where a small department is so situated that it is in communication with a large building. Under these conditions the leakage around windows and doors into the main building may be sufficient to supply the requirements of the exhaust system in the small building without any objectionable reduction in the temperature of the room.

Many exhaust systems have proven absolute failures due to the fan being starved for the necessary amount of air to do the work for which it was installed.

Illustration Sheet No. 7 shows a typical system as used in connection with granite polishing, stone grinding, chipping, etc. On this drawing the necessary dimensions of fans, separators, mains and branch pipes for use with any number of machines from one to ten are shown, and the elevation shows on a larger scale the arrangement of the branch pipes with ball and socket points, counter weights, flexible rubber hose and hoods required.

Hand sandpapering, scraping, certain classes of painting, dusting with powders and small sand blasting can generally be satisfactorily handled by placing in the tables or benches a grating, under which is located a hopper or inverted hood which is connected with the exhaust system. For this class of work the fan should operate at a speed which will develop a velocity of not less than 3,000 feet per minute over the area of the grating.

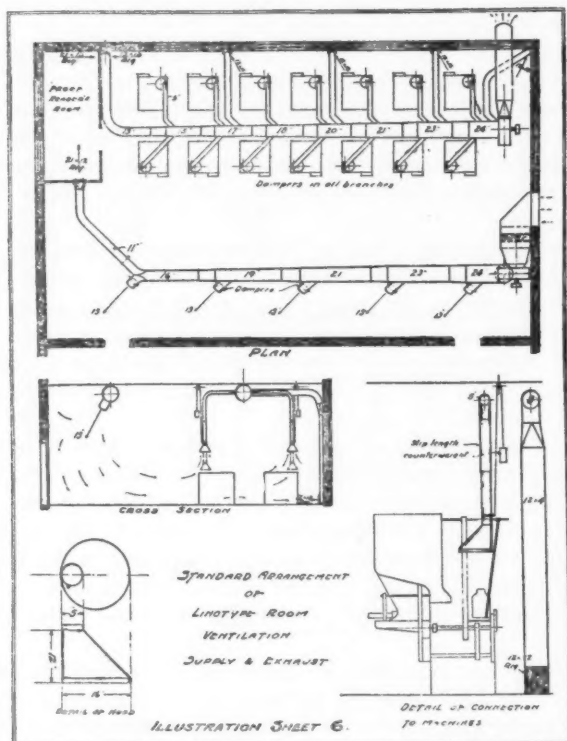
For large sandblasting operations it is necessary to remove the sand which is thrown off from the sandblasting hose. This work can be most satisfactorily handled by locating a grating in the floor and placing the article to be cleaned on the grating. The operator should, of course, be protected by a helmet and a suction equivalent to 3,000 feet per minute should be maintained over the surface of the grating, and proper provision should be made for an adequate supply of air to enter the room.

Care should be taken that the hopper is so designed that the sand dust entering it will not cut off the suction. This can be most readily accomplished by dividing the pit or hopper into several compartments, each arranged with a separate branch pipe, each branch pipe being connected with the main exhaust pipe line. Portable wooden deflectors suspended from the ceiling are of great advantage in deflecting the grains of sand away from the operator.

During the past few years painting, enameling and lacquering by means of spray brushes or atomizers has replaced hand brush work. This operation throws a fine spray or mist into the air and if the solid pigments or the liquid medium which are used are poisonous, it provides a distinct hazard to the health of the workman. Such work should be

performed only under an enclosed hood constructed to suit the size of the work being done, and at the same time to provide ample room for the movement of the operator's arms through hand holes in the side of the hood. As with all other hoods, the conical portion should be located so that the spray from the brush will be directed towards it.

For this class of work a disc or propellor type exhaust fan with direct connected motor is not at all suitable and it will be found that an

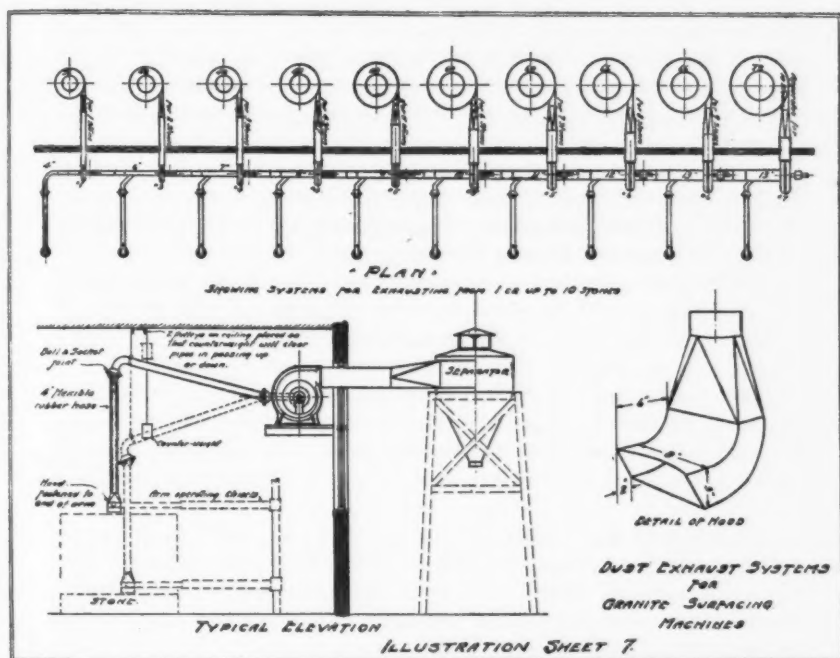


enclosed type of exhaust fan, located some distance from the spray chamber and connected to it by means of branch pipes, will give much better results.

In general a properly designed exhaust system should fill the following specifications:—

The arrangement of piping connecting with the hoods should be so designed as to offer as little resistance as possible. The area of any main duct into which any branch pipes enter, should not be less than the

combined area of the branches entering it plus 20 per cent. Branch pipes should enter the main at an angle of not more than forty-five degrees and thirty degrees or less is desirable. No branch pipes should be attached to the main at right angles. Two branch pipes should not enter the main directly opposite each other and "Y" branches should be avoided, as the two currents in conflict would retard the flow, sometimes causing the pipe to clog. Laps in mains and branches should be made in the direction of the flow of air. Elbows should have a radius in



the throat twice the diameter of the pipe. Hand holes with tight fitting sliding covers should be located in the main not more than 10 feet apart. Each branch pipe should be fitted with a sliding blast gate. Top hoods should be arranged with slip joints and counter weighted. Care should be taken that lint from cotton polishing wheels is not carried in the same main with dust from steel grinding wheels, as a spark from the steel grinders will frequently ignite the cotton dust causing explosion. In the same way care should be taken that fumes or gases from different hoods do not enter a common main where they might chemically re-act on each other and form explosive mixtures.

Acid vapours, such as sulphuric, hydrochloric, hydrofluoric, etc., readily attack iron or galvanized iron ducts and should be conveyed in ducts heavily coated with asphaltum or in lead lined or wooden pipes pitched and joined together with wooden pegs.

A very dependable rough rule for determining the diameter of exhaust pipes connecting with conical hoods is to make the bellmouth one foot larger in diameter than the apparatus it is to cover and to increase this diameter one foot for every two feet elevation above two feet, then to make the pipe one-quarter the final diameter of the mouth as thus determined. For instance, a kettle two and one-half feet in diameter, having the bottom of the hood two feet above it, would have a hood 3.5 feet or 42 inches in diameter and the exhaust pipe for this hood would be one-quarter of this, or approximately nine inches in diameter.

Practically the same results can be arrived at by making the pipe leading from the hood not less than one-sixteenth of the area of the hood at the bellmouth, and this bellmouth should extend six inches in each direction beyond the sides of the vat or apparatus which it is to cover.

Rectangular pipes can be compared with round pipes by multiplying the area of the square pipe by four and dividing by the perimeter of the square pipe. The result is the corresponding diameter of a round pipe for the same velocity.

The friction for varying diameters of round pipes is inversely proportional to their diameter at a given velocity. The friction of rectangular pipes at this velocity varies inversely as the square root of their respective areas. The friction of any pipe is directly proportional to its length.

The velocity of air entering a bellmouth hood over a tank, vat or kettle should not be less than 250 feet per minute over its entire area when located within thirty inches of the top of the tank and this velocity should be increased by 100 feet per minute for every foot above thirty inches at which the hood is located.

In conclusion it is to be regretted that so little attention has been paid to this problem by our universities and professional experimentalists. For generations our leading technical institutions have been experimenting on centrifugal pumps, steam turbines, steam boilers, heating plants and other various lines of useful and economical apparatus for industrial and domestic use and are still doing it, yet it is safe to say that none of them play a more important part in the development of our industries, the safety of human life and the economical production of manufactured goods than the application of fans and blowers to the removal of fumes, vapours, gases and dusts, all of which have been discussed under the heading of "Industrial Dust" in this paper.

Control and Rehabilitation in connection with the Venereal Disease Problem

BY EMILY F. MURPHY

Read at the Annual Meeting of the Canadian Public Health Association, Vancouver, B.C., June, 1920.

ON a poster of the front page of the Social Hygiene Bulletin for April, we find these words, "Public Knowledge will conquer Venereal diseases." It is this dictum which emboldens us to present our personal opinions and experiences on this subject.

Because our experiences in dealing with the sufferers have extended over a comparatively short period—that is to say less than five years—we feel we cannot speak with the authority that might seem a requirement for a Conference of such importance as this. It seemed to us wise, therefore, in submitting this paper to be read by proxy, to make it more personal and intimate than might otherwise be permitted.

In considering our experiences for this period, the thought uppermost in our mind is, that having framed their laws and established their clinics for the treatment of Venereal diseases, the different Provincial Governments must deal in a like drastic manner with the other twin scourges—feeble-mindedness and prostitution—in that these are the cause and source of most infection. Governments must inevitably deal with these two in order that their energies and finances may not be depleted in what is apparently an endless and vicious circle.

Indeed, the more you have to do with these two scourges, the more you are convinced that they are one and the same, for the vast majority of prostitutes are feeble-minded.

It was Dr. Woods-Hutchinson who has caustically, but truthfully, described the prostitute as "a helpless feeble-wit selling her body because she has no brains to sell."

Walter E. Fernald has said that, "Feeble-mindedness is the mother of crime, pauperism and degeneracy. It is certain that the feeble-minded and their progeny constitute one of the great social and economic burdens of modern times".

At any rate, it soon becomes evident to the workers that having rendered the feeble-minded prostitute free from Venereal infection, no Government Health Department can permit her the freedom of the streets to become again infected. There is no doubt that these irre-

formable women must, of necessity, be segregated during the child-bearing period, a plan which has been urged for years by all who have thought closely upon the matter.

This would appear to be a monumental expense but, actually, not so large as the loss that comes from disease, crime, and the conversion of sex-energy into greatly needed social energy. Indeed, morals have been an economic question, and vice has been found to be vitally antagonistic to prosperity and success. Looking at it from this viewpoint, the segregation of the irreformable persons must prove itself a source of cumulative dividends.

F. E. Williams, in *The American Journal of Health*, in an article published in 1916 entitled "Relation of Alcohol and Syphilis to Mental Hygiene", showed that in an investigation in Massachusetts of 100 men who died from syphilitic insanity, that 189 of their descendants were thrown as a charge upon the rate-payers, and that the State paid \$39,312 for the care of these patients, and that ten of them represented a financial loss of \$212,248.

A young woman under twenty-five years of age, gave evidence this month in the city of Edmonton, that on the night she was arrested, she had sexual commerce with ten men in a certain hotel, and that during the six preceding weeks, she had commerce with between 150 and 200 different men in the same hotel.

Upon examination at the Government Clinic, she was found to be suffering from both syphilis and gonorrhoea. The cost in suffering and the financial loss caused by the promiscuous incontinence of this one feeble-minded woman in these six weeks can hardly be computed, for we must consider not only the 200 men, but all those whom they infected in turn.

The whole problem is one of the first magnitude and we feel that the Canadian Committee for the Prevention of Venereal Diseases can best assist the Governments by establishing committees in each province to study these conditions; to report upon them; and to educate the public in order that they may more readily and intelligently co-operate with the Health Department of their particular province.

These Provincial Committees should use every effort to teach the people the direful consequences of these diseases, and that the longer they are concealed, the longer will be the period of recovery. The Provincial Committee should also aim at the raising of the standard of cleanliness, for prevention and cure must be twin sisters.

To this end, better housing conditions with adequate water supplies should be insisted upon. A lower incidence of disease must inevitably result from such improvements.

These Provincial Committees should have sub-committees whose

work it would be to study and report on matters of morale and sexual life, and the responsibility of the home, the church, the press, the hospital, the health officers, medical profession, and police officers to the different problems presented, for unless the Governments secure the co-operation of these classes, their enactments cannot be nearly so effective.

In particular, influence should be brought to bear on all publications to procure their co-operation in suppressing the so-called "jokes" on matters of sex. Probably more than fifty per cent. of all these stupid, wretched witticisms are directed to this subject, thus enormously lowering our standard of morals. Barbellion was wholly correct when he said, "To the enfranchised mind, it should be as impossible to joke about sex as about mind, digestion, or physiology."

The influencing of the press in this behalf may be a slow matter, the idea being a new one to them, but ultimately the ideal will take root and show results.

The Provincial Committees should make it one of their chief aims to strive for uniformity of venereal enactments so that a person cannot escape treatment, or a more irksome treatment, by crossing from one province to another. They should strive that all Departments of Health should have the power to quarantine persons infected until the period of infectivity has passed. And yet, not realizing the loss in human efficiency, and the consequent monetary loss, all our governments are half-hearted, or only slightly concerned.

Our Provincial Governments should provide means whereby every infected person may secure the best modern treatment, irrespective of his or her financial status, and should also make it mandatory that all irresponsibles who do not apply shall be treated under the force of the law.

Another work for the Provincial Committees, or its sub-committee, is placing before the public the necessity of maintaining the most stringent and repressive measures over the liquor traffic, in that the terrible incidence of Venereal disease is largely attributable to intemperance. One does not need to be a physician or a police-magistrate to know that organized prostitution and the infection of drunken men cannot be maintained to the same extent where the traffic in intoxicants has been abolished.

In our contact with this disease one of the painful facts that is daily brought before us, in both the Police and Juvenile Courts, is its terrible prevalence among entirely innocent persons. An example of this occurred a few days ago when a man from one of the rural districts instituted an action against his wife charging her with contributing to the neglect of their infant.

The evidence disclosed that the woman had fled from home taking

the infant with her, the husband following and forcibly taking possession of the child which he placed in an institution. He desired its custody and asked the Court to so order. He maintained that owing to her ill-health his wife was unable to support the child.

The woman was successful in setting up a defence that her ill-health was due to her having received gonorrhoeal infection from him; that she had undergone eight pelvic operations, one of which was a pregnancy in the tube. The man acknowledged that such was the case in all particulars.

In Canada we do not seem to have any statistics concerning the age at which helpless children have been victimized and despoiled but, personally, we had brought before us a number of little girls suffering from venereal diseases from five years of age upward, some of these having to undergo pelvic operations. This is one of the most appalling and tragic things in life, and the obscenity sickens us like the smell of blood.

It was Wederkind in his powerful drama, "The Awakening of Spring" who thrust over the foot-lights with Teutonic grimness the lesson that degradation and death may be the fate of any group of gifted children because of the neglect or cowardly reticence of their own parents.

Sometimes, a baby is brought in plainly suffering from Venereal infection. A feeble-minded girl with a tubercular bone in her nose, brought us a blind baby recently, and asked for its adoption. This was the third baby she brought to us in three years, the father of each being a certain married man in the country.

So many children suffer from this gonorrhoeal ophthalmia, which has been described as "the disease of the innocent", that at the risk of being presumptuous one must dare to suggest to the Canadian physicians here assembled that they take steps to have legislation enacted, making it obligatory—no matter how respectable its parents, that every child's eyes be cleansed with the proper percentage of silver nitrate immediately after birth. Till this be enacted, physicians should make such an arrangement with mothers prior to the birth of the children.

In speaking of the ignorance of women concerning gonorrhoea, Dr. John H. Stokes, has said, "A man has a chance to know what ails him. The woman in the existing state of popular and even medical sentiment, is lied to at every turn of the way. Gonorrhoea is serious enough a disease in men; in women it may be a disaster." In another place, speaking of the resultant operation euphoniously called "hysterectomy plus bilateral salpingo-oophorectomy" or "pan-hysterectomy", the same writer says, "To hear such a woman defenceless-looking in her braided hair and ether jacket, whisper timidly as they wheel her, uncomplainingly up to the operating table, "I do hope they'll fix me so I can have a baby"; to see the skin and muscles gape before the sweep

of the knife; to think that woman's thoughts for her, through an hour of ether haze and hushed comment and the peculiar sibilant click of hemostats as the surgeon does his uttermost to cobble up the wreckage and save her hope; finally in despair he begins the quick, swinging, practised movements that mean it must all go, and then to see her a week later, after they have told her the ovary story, is an experience to make the hardest turn away his face."

Noeggerath has stated that 80 to 90 per cent. of pelvic inflammation disease and 50 per cent. of absolute and one-child sterility in women are due to gonorrhoea.

Heretofore, physicians have held, almost universally, that professional etiquette did not permit of the wife being told that she was suffering from venereal infection. Without entering into any argument on the subject, we wish to say that however sincere or insincere this code of professional etiquette may have been in the past, it has been entirely banished by the recent addition of clause 316 a (1) to the Criminal Code of Canada, which clause provides that any person who is suffering from venereal disease in a communicable form, who knowingly or by culpable negligence communicates such venereal disease to any other person, shall be liable on conviction to a fine not exceeding five hundred dollars, or to imprisonment for a term not exceeding six months, or to a fine and imprisonment.

No physician can any longer maintain an aloof or neutral position, either from what has been called "professional etiquette", or from a desire not to offend the person responsible for the infection, or who is paying the bill, in that by such a course he is leaving himself liable to the charge of being an accessory after the fact.

No man should, not a moment under these circumstances, expect or request a physician to maintain a silence where the safety and life of the woman are concerned, and no physician, no matter how peculiar his sense of propriety, should shirk his very manifest duty in this behalf. A clean bill of health should be required of the offending person—whether male or female—before marital relations are resumed. As yet, few physicians are aware of this new provision in the Criminal Code, and we are persuaded that all members of the profession will welcome it as placing a stern obligation upon them to speak. No man or woman can reasonably expect a physician to become accessory to a crime merely in order to shield their condition, or to allow them to persist in the criminal infection of innocent persons.

It should also be the work of the Provincial Committees to co-operate with their government in striving for the rehabilitation of the women and girls who have been discharged from jail after undergoing treatment, or who are still undergoing periodic treatment at the Government clinics.

This work is much too arduous to be laid upon the already over-burdened shoulders of the court or police officials.

When, after her trial, a woman is remanded for examination, and subsequently for treatment under the provisions of the Venereal Diseases Act, she is usually perturbed and distinctly angry. In such cases, it is our invariable custom before she leaves the court, to explain to her, with considerable minuteness, the serious nature of the disease; the urgent necessity of her taking the cure; that this treatment is not meant to penalize but to help her, and that the expense is being borne by the government.

Most of the women become interested at once, and agree to do their part in submitting cheerfully to the rigorous treatment, and in promising to protect from infection those with whom they come into contact, by not drinking from the same cups, using the same towels or by wearing their articles of dress.

When these women are in jail, because of their comparative isolation, we sometimes supply them with needle-work which may be ultimately disinfected by washing. Also we send them books and magazines which may be destroyed with, occasionally, a written card conveying a helpful message.

When the women are released from the jail as being non-infective, we endeavour to obtain employment for them away from their former haunts and dissolute companions.

If one may be permitted to perpetrate an Irish bull, one might say that in the case of a young girl, the cure is only beginning with her cure. In any constructive attempt at her rehabilitation, close personal work is required. Otherwise we are face to face with all the depressing facts of recidivism.

In our experience in this work, we have found the best plan is to place the girl under the charge of some fine-spirited woman who will be at once strong and patient with her allotted ward. We are well-persuaded in the belief that "the beautiful souls of the world possess the power of transmitting other souls into their own loveliness. Shining on their fellows, they are more potent than codes of law or than militant armies." Nothing can take the place of these intimate personal relations if real reformatory work is to be accomplished.

As indicated above, so soon as the sufferers are dismissed from custody as being non-infective, they are required, in cases of gonorrhoea to present themselves at the government clinic once a week for further treatments. During this process in their cure, the physician and nurse give them literature bearing on the subject. Dr. Orr, the very efficient and kindly official in charge of the Clinic at Edmonton, tells us that so keen have the patients become in getting cured, that they can hardly

wait for their next treatment, and frequently present themselves a day or two sooner than directed. Not only this, but these persons have become missionaries who tell others infected how they, without any penal stigma attached, may be treated with privacy and completeness at the government clinic. As an evidence of how quickly the underworld is "getting the idea", we find that some of its members are going to physicians on their own accord and asking to have the blood test applied. When these women and men are apprehended and brought into court on any charge, it gives them not a little satisfaction to produce for our inspection a clean bill of health. This, however, is not accepted, the regulations of the Act being adhered to with rigidity.

What this voluntary submission to treatment means to a country that is threatened with universal infection, can hardly be calculated. Once the people are persuaded that the governments are in earnest and mean business, they will not wait to be forcibly cured, but will go about it themselves.

It is found that nearly all prostitutes brought into court have gonorrhoea, and that many have also syphilis. Some few have the added afflictions of tuberculosis with a well-established habit of drug dosage.

Under the provisions of the Venereal Diseases Act of Alberta, we are only permitted to remand for examination those persons apprehended under the Criminal Code, so that a large percentage of diseased prisoners slip through our hands—that is to say all those who have been apprehended for being drunk and disorderly in public places. This is a matter which should be speedily rectified. The only exception to this disability is that which permits the judge of the Juvenile Court, if he or she thinks it advisable, to remand for examination and treatment, all persons charged under the provisions of the Children's Protection Act of the province, or any child alleged to be "neglected" within the meaning of that enactment.

One of the very few pleasant things about the work of control and rehabilitation of sufferers from these diseases, is the gratitude of those who have been cured. One little girl, with a mentality of about seven years, whose father was killed in Flanders, and upon whom the Victoria Cross was conferred because of his splendid heroism, is confined to jail under a charge of vagrancy, at the same time undergoing treatment for what appeared to be a hopeless condition. The patience of her relatives had been exhausted and they had washed their hands of her both literally and metaphorically.

This child is immensely grateful for the care bestowed upon her, and continues to write us affectionate letters with the certain symbolic crosses, typical of her class, appended at the end of each. Whenever we see these crosses, while greatly appreciating her spirit, we are fully per-

suaded in our mind that, where "the dignity of the bench" is concerned, we never were nor never will be properly constituted police officials. We acknowledge it shamefacedly, but with a secret satisfaction because our harp can never be hung on a willow tree.

Arrangements have been made that upon her release from treatment, for the future, she be maintained in the Social Service Home, with monetary assistance from the Patriotic Society and others who have become interested in her rehabilitation.

In referring to this matter of gratitude, and of the irrational hostility which sometimes marks the thought of otherwise intelligent people towards these great sufferers, an eminent Professor in Medicine has said, "After all, there is something to inspire in the work. Those who can bring to the care of the modern venereal leper the spirit of a Father Damien will have a real mission. There are few who reap more generously the rewards of gratitude and whole-hearted fellowship than those who appreciate and lighten the trials of that portion of the sick whom public, misunderstanding, condemns without a hearing.'

Perhaps this is what the well-beloved Robert Louis Stevenson meant when he declared that his duty to his neighbour was not to make him good but to make him happy, although he must have known, as all of us do, that these two conditions in life are almost synonymous.

It was into the mouth of a sufferer, such as we have been describing, that a poet places these words indicative of her return to faith and womanly purity,

"Because, even here in this Mansion of Woe
Where creep the dull hours leaden-shod,
Compassion and tenderness aid me,
I know there is God.

A Plan for a More Effective Federal and State Health Administration

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(Continued from the August issue).

THE ADVISORY PUBLIC HEALTH COUNCIL

As essential to such a plan of complete reorganization it would seem that provision should be made in the case of the Federal Health Administration as well as in those of the several States, for an advisory council, rigorously limited to suitable expert ability. Such a council is urgently insisted upon in the proposed plan for a Ministry of Health for Great Britain. It has been recommended by the British Medical Association that such a council "should be appointed by the minister from nominations made by bodies recognized as having a special claim to representation. This claim should be based not on any supported vested interests, but on the ability of the bodies concerned to give expert advice on the subjects to be considered and to keep the minister in living touch with those bodies and classes of persons on whose co-operation the success of the new ministry would depend". Applied to the problem under discussion this would mean that the Federal health administrator, or the State health administrator, would attach to his office a body of experts recommended by associated activities, such, for illustration, as the American Public Health Association, the American Red Cross, the National Tuberculosis Association, the National Safety Council, the National Committee on Malaria, the American Association for the Study and Prevention of Infant Mortality, etc. Since the advisory services through the council would be individual rather than collective in the majority of cases in which such advice would be required, the membership of the council might be made relatively large. There should, of course, be representatives of the American Medical Association, the American College of Surgeons, the American Dental Association, the Mental Hygiene Association, the Social Hygiene Association, the Association of Pharmacists, The International Health Board, etc. There might even be representatives of related public activities, such, for illustration, as the American Statistical Association, the American Actuarial Society, the Association of Life Insurance Presidents, the U.S. Chamber of Commerce, the Association of Industrial Physicians, the National Industrial Conference Board, the National Association for School Hygiene, etc. Assistance might also be drawn from the mem-

bership of the different sections of the American Association for the Advancement of Science, the American Anthropological Association, etc. The spirit of active co-operation and the willingness to render voluntary services are so thoroughly diffused throughout this country that it may safely be held that whatever voluntary assistance would be required by the Federal or State health administration in the directions indicated would be forthcoming without any difficulty whatever.

TEACHING METHODS IN PUBLIC HEALTH

Of the foremost importance, however, is the establishment of a thoroughly well-organized School of Hygiene and Public Health, independent or, in connection with, a large university providing abundant facilities for research work. Such a school should not be made to rest upon exclusively medical considerations. The new science of Public Health is essentially non-medical in its major function of disease prevention and control. The problems of sanitary law and administration are almost exclusively non-medical, except in so far as medical considerations amplify local powers, such, for illustration, as those of quarantine officers, inspectors of nuisances, control of midwives, protection of infant life, employment of children, etc. In all of these matters legal, social and economic considerations take priority over those that are medical. The same conclusion applies to the supremely important question of a wholesome and abundant water supply, which is primarily an engineering problem. The determination of impurities or the required methods of mechanical or chemical purification, as well as the chemical and bacteriological examination of the water itself, all lie outside of the plan and scope of medical service, even in the broadest sense of the word. Equally conclusive are the facts regarding air, ventilation and heating. The ascertainment of the composition and physical properties of air, of air impurities and the making of air examinations, as well as the ascertainment of the quantity of air required for ventilation and the best methods by which the necessary quantity of air can be supplied, are primarily engineering questions, the practical solution of which has become a recognized branch of sanitary science. Even in such a restricted field as dust phthisis, the major portion of the required research work is non-medical. The most useful contributions which have been made to problems of ventilation and heating are those of mechanical engineers, rather than those of medical men.*

*For illustration, the report of the Departmental Committee appointed to inquire into the ventilation of factories and workshops is signed by Prof. John Scott Haldane and Mr. Edward H. Osborne, neither of whom, as far as known, is an active member of the medical profession. The reports of this committee rank as the most useful contribution to a subject which is of the utmost practical importance to persons employed

In the immense field of food control and the enforcement of laws against food adulteration, etc., the responsibility in the main rests upon chemists and bacteriologists and not upon members of the medical profession. The same conclusion applies to the supervision of beverages, including the use or the abuse of alcohol. One of the most important recent investigations of the psychological effects of alcohol is the work of Raymond Dodge and Francis G. Benedict, experts in nutrition and psychological research, but, not as far as known, men of any experience whatever in the practice of medicine as a healing art.

Such subjects as clothing, exercise, soil, housing, schools and hospitals are largely problems outside of the field of medical practice.* While all of these questions have important medical aspects, the governing

under conditions which give rise to atmospheric pollution. The investigations of the commission included such widely different employments as clothing factories, boot and shoe making, laundries, bread and confectionery making, printing, file-cutting, textile factories, etc. Practically all the technical problems involved in the control of dust and the removal of fumes are non-medical and depend for their ultimate solution upon engineering considerations. It may be said in this connection that Mr. E. H. Osborne is the engineering adviser to the Chief Inspector of Factories and that if Mr. John Scott Haldane is a member of the medical profession, he was probably not appointed to the committee on that ground, but because of his preeminence in other fields of exacting scientific research. It may also be suggested to those who are interested in this question that a collection of illustrations of the methods of dust extraction has been compiled by Commander Sir Hamilton P. Freer-Smith, R.N., and published as a Parliamentary paper in 1906 (C.D. 3223). It is also suggestive that the Commission on Ventilation of the State of New York, of which Prof. C. E. A. Winslow was the chairman and Prof. Frederick S. Lee an important member, included, as far as known, only a single member of the medical profession, Dr. John Alexander Miller, the distinguished author of an important paper on "The Effect of Changes in Atmospheric Conditions upon the Upper Respiratory Tract". The work of Dr. Miller in this and other fields is an admirable illustration of the practical services which members of the medical profession, *if otherwise qualified*, can render the cause of improved ventilation and dust control in factories and workshops.

*This observation, of course, must not be carried too far. Important contributions have been made to the scientific study of the effects of clothing upon health by members of the medical profession, and even more so, of course, to the larger problem of physical exercise. Among recent contributions, reference may be made to a paper on "The Influence of Clothing on the Surface Temperature of Infants", by Drs. McClure and Sauer, of Chicago, contributed to the *American Journal of Diseases of Children*. This paper presents an admirable analysis of temperature observations, etc., concluding with the statement that "At a room temperature of about 31° C. an infant clothed in the manner above described and under the conditions of our observations, approaches very closely the point where a heat loss by conduction and radiation is no longer possible. Our experiments indicate that such a state of affairs may be fraught with danger to the organism". Of value also is a rather interesting volume on "Dangers in Neckwear", by Dr. Walter G. Walford, London, 1917, including observations on the thyroid as affected by neck pressure; the importance of neck-room in growing children; the reasons why small ailments are often the beginning of a serious breakdown, etc.

principles of right public action are in the main non-medical, or determined by other special physical, social and economic considerations. In the successful solution of each and all of these, medical men have in the past and are certain in the future to render much valuable and, in fact, indispensable aid, but it is held that for *administrative purposes* non-medical, scientific and business ability are more urgently needed for the attainment of urgently required practical health and general sanitary reforms.

Finally, such problems as scavenging and street cleaning, sewage and sewage disposal, and the disposal of the dead are largely non-medical, and so much so that it would seem a wrongful waste of opportunity on the part of a medical practitioner to give much time and thought to problems obviously essentially of an engineering or otherwise non-medical character. The same conclusion applies to the supervision and control of offensive trades or dangerous occupations, which within recent years have become centralized in the public administration of factory inspection on the one hand and safety engineering on the other.

With these facts in mind, it would, therefore, seem that a thoroughly efficient modern School of Hygiene and Public Health should rest upon different fundamental principles and a differently conceived plan of co-operation and coordination than the recently established School of Hygiene and Public Health of Johns Hopkins University. The Johns Hopkins School provides, it is true, courses leading to the degree of Doctor of Science in Hygiene and of Bachelor of Science in Hygiene, but the general implication is that priority of consideration is given to medical subjects as a prerequisite of graduation, leading to the degree of Doctor of Public Health. As yet, merely in the preliminary stage of organization, it is to be hoped that in its future development the School of Hygiene and Public Health will be made to rest upon a much broader plan of organized thought* than is at present the case, for though the

*The most important recent publication on this subject is a treatise on "The Organization of Thought" by A. N. Whitehead, F.R.S., Philadelphia, J. B. Lippincott & Co., 1917. The work is an indictment of modern methods of technical education and a convincing plea for drastic educational reforms. In the words of P. G. Nutting: "Especially in a time of crisis like the present, national welfare depends upon the greatest possible development and utilization of all its resources, particularly those of strength and skill. New experts should be constantly selected and trained. All the highest expert knowledge should be at the service of the nation for directing the best development, utilization and conservation of all national resources, material, intellectual, manual and financial. Organizations and individuals, as well as the nation as a whole, should have the help of systematic expert knowledge in bringing them up to their possibilities. A general and well-ordered application of the results of scientific research to the problems of the individual, the organization, the nation, and of the world would have incalculable effects. We are only beginning to apply organized knowledge in an organized way, but the desirability of increasingly doing this in the near future is urged". (*Science Monthly*, May, 1918.)

teaching of effective methods of sanitary administration is paramount, it is given merely incidental consideration in the curriculum at the present time. The object rather seems to be to add a relatively small measure of public health education to a large amount of previous medical education, much, if not most of which, is absolutely useless for all public health purposes. There is no adequate provision for the teaching of sanitary law and public health administration in its hygienic, as well as in its medico-legal and more general aspects. There is also inadequate provision for the teaching of the principles and practice of ventilation and heating and of illuminating engineering, than which perhaps no branches of modern public health administration are of greater immediate practical importance. Considering the fact that an ever-increasing number of men and women are employed indoors and at occupations involving more or less physical and physiological strain, the question of adequacy of air and ventilation, freedom from exposure to injurious industrial dusts, proper methods of lighting and heating, are all paramount questions of public health administration. It would, therefore, not seem sufficient to include such important subjects as these under the general term of "physiological hygiene", and in any event the more practical engineering aspects of these particular branches of public health administration should be more clearly emphasized.

To be Continued.

The Co-ordination of State and Private Enterprises in Public Health Work

BY DR. W. H. HATTIE

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Read at the Annual Meeting of the Canadian Public Health Association,
June 21 and 22, 1920

FOUR years and more of the stresses and distresses of war taught us many a useful lesson. We learned something of our strength, something of our weakness, and a mighty lot of the value of co-operation. We learned that even a destructive force, to be efficient, must be conserved—that the outcome of the struggle depended not merely upon the number of the enemy that could be killed, but to a great extent upon the number of our own soldiers that could be saved. We learned that conservation of health and life is a practicable thing, and not merely a pleasant fiction. And we learned that a righteous appeal meets with a worthy response. These are but a few of the lessons, jolly well needed, which the great experience taught us, but the greatest of them all is the value of team work, with absolute unity of direction.

Such wars as that from which we have recently emerged are but episodes in the history of the world. Though rightly called the great war, the devastation it caused was trivial, and its influence upon mankind will be but ephemeral, in comparison with a struggle which has waged incessantly from the earliest times and which will continue as long as the world lasts. On the one side, every living soul—on the other, the hosts of death; and never a doubt as to the ultimate result. This, too, is war—war against a relentless foe which respects neither age nor sex nor social position, which never asks for a truce and which never enters into a treaty. We cannot hope to completely conquer such a foe, but we can combat it so that its ravages may be materially lessened, and its toll of life and efficiency and material things may be greatly reduced. Even such a result is well worth striving for, and the degree of our success will be determined by the intelligence with which our efforts are directed and by the harmony of our team work. The handicap under which we are placed permits of no misdirection or dissipation of energy.

Nothing has been more heartening to public health workers than the growth and spread of interest in public health possibilities which recent years have witnessed. The stimulus has been felt in many ways, and

has aided greatly in furthering advance. While zeal may at times have outstripped prudence, leading to multiplicity of organizations with resultant overlapping and perhaps clashing of interests, the tendency towards co-ordination of effort had been steadily becoming more evident. And now that the League of Red Cross Societies has been formed with so magnificent a purpose in view—"the improvement of health, the prevention of disease, and the mitigation of suffering throughout the world"—we have an ally, the strength of which can scarcely be overestimated, and which has the unquestioned confidence of the people of every nation. If then, we take advantage of this alliance and determine upon effectively correlating the activities of all agencies with similar aims, whether they be State or private organizations, in a united endeavour to improve the general health, we should make tremendous strides towards our common goal. And because of Red Cross connection, there should develop a feeling of mutual interest and sympathy among nations which should become a most important factor in securing and preserving peace throughout the world.

It is particularly gratifying to those in the service of the State that the League of Red Cross Societies has definitely recognized that the protection of the health of the people is a responsibility and a function of government, and has decided that public health work under Red Cross auspices will be supplementary or complementary to that undertaken by other voluntary and State agencies. The readiness of so powerful an organization to enter the public health field in what might almost appear to be a subordinate position is indicative of the splendid spirit which actuates Red Cross activities generally. It, moreover, shows the consistency of an organization which has won a reputation for such efficiency as can be attained only through centralization of authority. So fine an example will doubtless overcome any hesitation which other agencies might have in agreeing to carry on their undertakings under greater or less control by a Central Authority. It is very human to desire independence of action, and to crave public applause, but in the great work of saving life and of increasing the comfort and happiness of mankind the attitude of all good workers will be one of complete unselfishness.

When, therefore, it is said that the general direction of all health work should be in the hands of the health administrator of the State, it is not because of any wish that such official should receive anything more than merited kudos for the results achieved. It is because such an official is the logical person to whom this great responsibility should be assigned. Much public health work can be carried on only under statutory enactments, for the formulation and enforcement of which the State is responsible. Practically all the progress which has been

made in this work has been either initiated by or made possible by State health organizations. Much the larger part of the expenditure which has thus far been made on behalf of the public health has been from State funds. Officials of the State have opportunities for acquiring information as to both general and local needs and for determining the most promising lines of action which are in but exceptional instances available to private persons. And the people generally have come to look to the State for leadership in such matters. If, therefore, we are to agree upon the principle of unity of action, it would appear that the co-ordinating and harmonizing force should be the State organization. It certainly could not be hoped that any private enterprise could be assigned such a place without arousing the antagonism of other agencies which are doing most useful work along similar lines.

The amount of control which the State organization might exert over private enterprises should, however, not be more than is necessary to prevent wastage of funds and effort. As far as possible there should be no interference with autonomy. Every possible assistance should be rendered, every encouragement should be offered, and every credit should be given by the State organization to the co-operating agencies. And while all private activity in respect to health work should perhaps be conditional to the sanction and oversight of the State organization, the pressing need for such private activity and the unquestioned value of a great deal of the opinion which evolves from such sources, should prevent any unreasonable interference with the work they are carrying on. There should, of course, be frequent conferences in order that there may be definite and complete understanding in respect to policy and the relationship between the various organizations.

While not suggesting that there should be any diminution of State activity or lessening of State responsibility in matters which are definitely functions of the State, it would appear that unofficial organizations could materially aid in the furtherance of our aims by encouraging investigation along promising new lines, especially through financial assistance to laboratories; by assistance through endowment or otherwise in the teaching of public health to medical students and others—as to graduate nurses who desire to enter our fields, and to those who wish to engage in welfare work; and by assistance to national organizations now engaged in propaganda which has a bearing on public health. The proposal of the Red Cross Society to provide in whole or in part for the support of public health nurses in communities in which local funds are insufficient for such a purpose is a most practical method of co-operation. Further assistance might be rendered by furnishing paid and voluntary workers to help at health centres, health clinics, etc., in rendering clerical aid, stimulating interest, distributing relief, and carry-

ing on such other work as does not require technical training, so as to conserve the time and energy of those who have such training. In such ways immense impetus would be given to the work of the official agencies.

The inspiring programme which the League of Red Cross Societies has laid down, and the splendid work on behalf of the public health which has been carried on by the Victorian Order of Nurses, Anti-tuberculosis Leagues, child welfare organizations, local nursing associations, womens' institutes and kindred enterprises, merit our heartiest commendation. The self sacrifice shown by so many of our people, who have given freely of their time, energy and substance in the effort to ameliorate the conditions of their less fortunate fellows cannot be too highly extolled. Those holding positions in the service of the State owe to these noble people a really burdensome debt of gratitude. We need the stimulus and the encouragement as well as the help they give. It is with no desire that their activities should be curtailed, or that any irritating restraint should be put upon them, that it is suggested that they should work under State direction, but rather to increase their efficiency and to obtain through harmonious co-operation the best possible results in "the improvement of health, the prevention of disease and the mitigation of suffering".

Social Background

The Function and Organization of a Family Work Agency

J. HOWARD FALK

Director, Department of Social Service, McGill University, Montreal

IT is necessary that we should understand the term "Family Work Agency". It has come into use in describing agencies such as "Associated Charities or Charity Organization Societies", whose functions are usually more limited than their name implies.

In brief we may consider the function of the family work agency to be that of securing a normal life for families when one or more members of the family are in social maladjustment. The family is accepted as the unit of society; the needs of a particular member of a family cannot be considered except in relation to the family as a whole; the needs of a family cannot be considered except in relation to the whole community in which it lives.

The particular need of the individual may appear to be economic, physical, educational, or spiritual, but each one has to be considered in relation to the remainder.

The effective family work agency fully appreciates and acts upon the foregoing principles; the individual or agency who refuses to recognize these principles and attempts to deal with the individual as an individual and not as a member of a family, or with the family without relating it to the community in which it lives is unconsciously denying the family its proper place as the social unit on which society is based and is ignoring the complexity of present day community life.

The social worker who denies the relation of spiritual to economic or physical need is oblivious to his own motivation to service; the church worker who expects to readjust the individual to normal life by obtaining a profession of faith unconsciously plays into the hands of the Pharisees who believe in the form and neglect the practice of religion. Religion makes a poor bed-fellow for vice, disease, crime and sordid poverty. A profession of faith from those who are surrounded and often part of such anti-social conditions is in constant danger of succumbing to attack.

The Family Work Agency endeavours to plan its work of social maladjustment in such a way as to bring into play all the healthy influences of family and community life; it gives to each its due importance, it finds in the school teacher, the doctor, the clergymen, the health

official, the policeman, the judge and groups of men and women who can be used to dovetail into its program for the benefit of the family. It reveals the members of this group to the family as potential friends; it interprets to each and all in the group their responsibility to the family and to each other.

In direct ratio to the effectiveness of the family work agency of a city will be the degree of co-operation shown between all the city's social agencies.

Where the family work agency is effective there will be found wide recognition of the fact that each agency is but a small part of an intricate machine whose work is to produce human happiness.

The more intricate the machine the more able it is to turn out a good social result. If its mechanism is perfect, if every need of the human material is considered as it passes through the social machine then the social result will be perfect, able to hold its own in the battle of life; if, however, the machine is imperfect or if our part functions poorly, the social result will be imperfect. No one social agency can live unto itself alone.

It is conceivable that a very intelligent engineer, after years of study and training, might commence to build a locomotive all by himself; with the aid of every modern device he might in the course of years accomplish his task. It is conceivable that a very intelligent individual might in turn substitute for Parent, Teacher, Doctor, Nurse and Lawyer in readjusting a family to normal life. The complexity, however, of either undertaking demands a distribution of labour and perfect co-ordination of respective functions.

In so far as community effort is necessary to safeguard the integrity of the family it becomes necessary for the social agencies to confer with each other and determine upon policies to be advocated in public. Housing, recreation and public health will be the common concern of each and every agency in their prevention as well as in their ameliorative activities. The treatment of the individual family in social maladjustment, however, does not justify the calling together in conference of every agency. A simple process of effecting co-operation must be devised.

I shall assume that you are all familiar with the analogy between medical and social diagnosis and treatment. The social worker called in for the first time to treat a patient suffering from the disease of poverty or social maladjustment desires to get historical background. It is impossible to enquire from every agency which might have known his patient in the past. The confidential exchange removes the necessity; he enquires of this one source; his enquiry gives the name of his patient and only such other information as will enable his patient to be dis-

tinguished from all others of the same surname. *The exchange gives him no information about his patient other than that on such and such a date some other agency had his patient under observation. The connection is made and the social worker begins to build up his historical background from the past records of churches, doctors, hospitals, schools and social settlements.

The most common criticism of the 'Confidential Exchange' is that it makes public the names of those who are in distress. In actual practice the exchange protects a family from undue publicity. The vicar of my church, knowing me and my family, registers an enquiry at the exchange about me. Assuming that no one has done this before, all that happens is that a clerk makes out a card with certain particulars on it as to my family which finds its place with thousands of others and is lost and "dead" until perhaps ten years later when something happens. I die and my wife is left a widow, my boy gets into the juvenile court for throwing stones, some one else enquires at the exchange and they are told that my vicar was so-and-so of such and such a parish on such and such a date. The new enquirer communicates with my vicar and they work together to help my family. The vicar's knowledge of the family being essential to the second enquirer.

With a welloperated confidential exchange in any community it will not matter how many different family care agencies are at work—provided all use the exchange and then co-operate in their efforts. In fact there are distinct advantages in having more than one agency at work as a division of work permits of agencies such as the Sons of England taking a special interest in special families. The dangers of division are only apparent when these special agencies neglect to play their part in the all-round program for the development of the family.

The subject allotted to me does not suggest a discussion of the relative functions of public and private agencies. This, however, is a question which is being faced by all the larger cities on the American Continent.

To the question, "should family care work be done by a private or by a public agency?" there is only one answer, it entirely depends on the community.

The outstanding advantage of the position of the private agency over the public is its power to experiment and differentiate in its plans for families without fear of being asked to explain why it did this for A and refuses to do the same thing for B. The chief disadvantage is to be found in the difficulty experienced in raising sufficient funds for

*For a complete understanding of the Confidential Exchange read *The Confidential Exchange*, by N. F. Byington, published by The Russill Sage Foundation, East 22nd Street, New York City.

service and relief and in the enormous amount of time consumed in raising those funds.

A public department, which has come into being after the community has been educated to appreciate the value of "service" in family work, should be able to secure all the necessary funds without trouble and its governing committee can devote all their time to considering the social problems revealed by the case work of the department.

There is, without doubt, a danger that those who have once fallen below the line of self-subsistence may rely upon what they consider to be an inexhaustible civic purse. This attitude can be quickly abolished if the committee is firm in support of the decision of its trained social case workers, who will be enthusiastic at the chance of giving adequate relief where needed without constantly being harassed by a committee on account of the lack of funds.

The compromise between a wholly voluntary agency and a civic department completely under the control of elected aldermen seems to be a "Commission" on which a bare majority of elected aldermen serve along with appointed citizens.

Such a commission should depend in the main on an appropriation from city funds for its financial budget, but there is no reason why an auxiliary agency cannot be formed in the community which, having no paid staff of its own, can collect money for "special functions and purposes" which can be placed at the disposal of the "Commission". In this way a commission may grow to realize the value of a "visiting housekeeper" whose services have been paid for and lent by an auxiliary. The expense of the visiting housekeeper having been assumed by the commission, the auxiliary may loan the services of a "vocational guidance worker" or a "psycopathic social worker".

In conclusion we may say that the essentials in a family work agency are, first a Board of Committee of level-headed far-sighted men and women willing and able to give much time to their work; second, an intelligently equipped staff; and third, adequate funds. Given these three conditions a sane but fearless agency, whether public or private, may do much to interpret the so-called masses and classes to each other in the process of securing a normal life for those who have temporarily become maladjusted to society.

The Provincial Board of Health of Ontario

Cases and Deaths of Communicable Diseases reported by Local Boards of Health for the Month of July, 1920

<i>Diseases.</i>	July 1920.		June 1920.		July 1919.	
	<i>Cases</i>	<i>Deaths</i>	<i>Cases</i>	<i>Deaths</i>	<i>Cases</i>	<i>Deaths</i>
Small-pox.....	142	0	249	0	51	1
Scarlet Fever.....	169	4	371	12	154	3
Diphtheria.....	302	46	342	45	186	19
Measles.....	1,419	15	3,613	22	83	0
Whooping Cough.....	106	5	151	15	80	6
Typhoid Fever.....	35	8	31	12	34	8
Tuberculosis.....	161	82	220	184	210	147
Infantile Paralysis.....	2	0	2	1	7	0
Cerebro-Spinal Menengitis....	3	3	..	9	11	10
Influenza.....	6	6	39	29
Acute Influenzal Pneumonia...	2	2	..	10	..	60
Acute Primary Pneumonia....	..	116	..	260
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	2,347	287	5,118	599	816	254

Venereal Diseases reported by the Local Officers of Health

	July 1920.	June 1920.	July 1919.
	<i>Cases</i>	<i>Cases</i>	<i>Cases</i>
Syphilis.....	131	169	83
Gonorrhoea.....	135	183	139
Chancroid.....	0	4	7
	<hr/>	<hr/>	<hr/>
	266	356	229

Reports of Communicable Diseases for the Province for the month of July show a most decided reduction in nearly all the diseases, especially measles, compared with the month of June last, as may be seen by the Comparative Table. The decrease may partly be accounted for through the franking privileges being cut off and the usual number of reports from Local Boards of Health have not come to hand. The reduction in small-pox cases is 207, scarlet fever 202, diphtheria 40, and measles 2,192. The 142 cases of small-pox covered 39 municipalities or an average of less than 4 each. The places reporting the disease are as follows:

<i>County</i>	<i>Municipality</i>	<i>Casse.</i>
Algoma.....	Sault Ste Marie.....	6
	Johnston Tp.....	1
	Unorganized Tp.....	1
Brant.....	Oakland.....	1
Carleton.....	Ottawa.....	30
Hastings.....	Belleville.....	12
	Indain Reserve.....	2
Kent.....	Oxford Tp.....	1
Leeds and Grenville.....	Prescott.....	1
	Elizabethtown Tp.....	1
	Bastard and B.....	1
Lennox and Addington.....	Earnesttown Tp.....	1
Middlesex.....	Westminster Tp.....	4
Muskoka.....	Gravenhurst.....	5
	Bracebridge.....	3
Nipissing.....	Widdifield Tp.....	1
Ontario.....	Rama Tp.....	4
Oxford.....	Blenheim Tp.....	1
Perth.....	Stratford.....	1
Peterboro.....	Peterboro.....	6
Prince Edward.....	Picton.....	1
	Ameliasburg Tp.....	2
Simcoe.....	Victoria Harbour.....	3
	Nottawasaga Tp.....	1
Stormont D. and Glengarry.....	Cornwall.....	5
Sudbury.....	Sudbury.....	1
	Foleyet.....	1
Temiskaming.....	Timmins.....	1
	Cobalt.....	1
Thunder Bay.....	Fort William.....	5
	Paipoonge Tp.....	2
	Neebing Tp.....	4
	Springer.....	1
Victoria.....	Emily Tp.....	2
Waterloo.....	Kitchener.....	6
	Wilmot Tp.....	2
Wellington.....	Mount Forest.....	1
York.....	Toronto.....	17
	Newmarket.....	1
	Aurora.....	2

The Opium and Narcotic Drug Act

For the Information of Wholesale and Retail Druggists and Others Concerned

Under the amendment to the Opium and Narcotic Drug Act, which was passed at the recent session of Parliament, it is provided that the same shall come into force on a date to be fixed by proclamation of the Governor-in-Council.

It is the intention of the Department to have this Act proclaimed and come into force on or about September 1st, next.

Under the new Act, all wholesale druggists, manufacturers or dealers are required to obtain a license to deal in these drugs, for which an annual fee of twenty-five dollars (\$25) is charged. All retail druggists who manufacture narcotic drugs, or preparations containing the same, are required to obtain a license, for which an annual fee of five dollars (\$5) is charged. All druggists, other than those who manufacture, and every physician, veterinary surgeon and dentist is required to make a declaration that they are engaged in the sale or distribution of these drugs. Forms will be supplied by the Department on application to be filled in and returned as required under the Act.

The Act also requires all druggists, whether wholesale or retail, and all manufacturers to keep a record of their receipts, together with a record of the quantity manufactured, and a record of their sales. These records are required to be kept in a special book kept for this purpose, and after a prescribed form.

Another important change under the new Act is the limiting of the number of ports in Canada at which these drugs may be imported or exported, and the provisions whereby opium and other drugs intended for export must be packed and marked in such a manner as to denote the contents of the packages.

Provision is made under the Act for the sale of preparations intended for internal use which do not contain more than two grains of opium, or more than one-fourth of a grain of morphine, or more than one-eighth of a grain of heroin, or more than one grain of codeine to the fluid ounce. Provided, however, that such preparations must be medicated to sufficiently preclude the possibility of their being purchased simply to obtain the narcotic effect, and further that such preparations must have printed on the label or wrapper in a conspicuous place the following warning:

"IT IS UNLAWFUL TO ADMINISTER THIS PREPARATION TO A CHILD UNDER TWO YEARS OF AGE AS IT CONTAINS OPIUM AND IS DANGEROUS TO ITS LIFE".

The maximum penalty for infraction of the Act has been increased from five hundred dollars (\$500) to one thousand dollars, (\$1,000) and a minimum penalty of two hundred dollars (\$200) is provided.

It is the intention of the Department at a later date to furnish all druggists with a copy of the regulations, together with a copy of the Opium and Narcotic Drug Act, with amendments to date.
Department of Health,

A Farewell from General Fotheringham

Corps Orders

BY MAJOR-GENERAL G. L. F. FOSTER, C.B.

Acting Director-General of Medical Services, Ottawa, Ont.

June 28th, 1920.

226 SPECIAL ORDER.

Major-General J. T. Fotheringham, C.M.G., upon retiring from the duties of Director-General of Medical Services, desires to take leave of all officers, nursing-sisters and other ranks of the medical services, both those who are still serving and those who have been demobilized but who have at any time served under him.

He is deeply sensible of the constant loyalty and high efficiency of the service as a whole, both overseas and in Canada, and of his indebtedness as officer administering the service in Canada to the personnel as a whole.

The memories of the Great War, with its priceless opportunities for serving king and empire and native land, will remain an inalienable asset to us all, and particularly the good-will shown by the service and by the profession generally to those who have been carrying the heavy burdens of responsibility for policy and administration, both at this headquarters and in the districts.

A. E. SNELL,
Colonel, A.D.M.S.
for a/D.G.M.S.

News Items

Dr. Grant Fleming, who some months ago was placed in charge of the Venereal Disease Division of the Dominion Department of Health, has been appointed Deputy Medical Health Officer for the City of Toronto.

The Association of French-speaking Physicians of North America met at Quebec on September 9th, 10th and 11th.

The Health Department of the City of Toronto is conducting an investigation into the cost of foods served in Toronto restaurants.

The propaganda film, "The End of the Road", distributed by the Canadian National Council for Combating Venereal Diseases, has been shown to over 200,000 people in Canada.

A Pan-American Conference on the control of Venereal Diseases will be held in Washington, D.C., in December. It is understood that the American Red Cross is taking an active part in making this conference possible and that it is being arranged through the co-operation of the United States Public Health Service, the United States Inter-departmental Social Hygiene Board and the American Social Hygiene Association.

J. J. Middleton, M.D., Toronto, D.P.H., Queen's College, Belfast, has been appointed Director of Publicity for the Provincial Board of Health of Ontario.

New laboratories of the Provincial Board of Health of Ontario have been established at North Bay and Sault Ste. Marie.

The Canadian Red Cross Society has awarded to Miss Jean E. Browne of Saskatchewan a scholarship of \$1,500.00 in Public Health Nursing, to be held for one year at the University of London, England. Similar scholarships are being given by the other countries which are included in the League of Red Cross Societies, a world-wide organization which is one of the first fruits of the League of Nations. The League of Red Cross Societies is providing scholarships in the countries where Public Health Nursing is not yet established, so that the course will be truly representative and cosmopolitan.

Miss Jean Browne, who goes as Canada's representative, has already attained prominence in the field of Public Health Nursing in Canada. She is an honour graduate of the Toronto Normal School and of the Toronto General Hospital Training School for Nurses, in the latter institution winning the General Proficiency Scholarship in the final year. In 1911 she organized the health work of the Regina Public Schools in Saskatchewan, and since 1917 she has been Director of School Hygiene for the Department of Education of Saskatchewan.

This international course in Public Health Nursing has the double object of giving post-graduate instruction, and encouraging the interchange of ideas current in the countries represented by the students. From both aspects the selection of so outstanding a figure in the field of Public Health Nursing in Canada is especially suitable."

The Florence Nightingale Medal has been awarded by the International Committee of the Red Cross to Miss Margaret Clotilde Macdonald, Matron-in-Chief of the Canadian Expeditionary Force during the war.

This decoration is international in character and is awarded only to women whose work in the cause of humanity has been of paramount importance.

University Course in Public Health Nursing Established in Ontario

THE Ontario Division of the Red Cross Society has completed arrangements with the University of Toronto for the establishment of a Department of Instruction in Public Health Nursing in connection with the Faculty of Medicine. This course requires the attendance of graduate nurses at the University for one academic year. It is hoped that fifty qualified nurses will be registered for this course by the end of September. Details regarding the course of instruction have just been made public, and it is evident that these will prove attractive to many nurses who see in this service an extension of the usefulness of qualified nurses to the community. The Ontario Red Cross is providing ten scholarships of \$350 each; five of which are to be assigned to nurses who have served overseas.

The establishment of this course is in development of the policy to continue the work of the Canadian Red Cross Society in Peace Time, in conformity with Article 25 of the Covenant of the League of Nations, for the "improvement of health, the prevention of disease, and the

mitigation of suffering throughout the world. This has led to a realization that Public Health Nurses, specially trained for the work which they have to do, are not available in sufficient numbers to provide for an immediate extension of Public Health Nursing Service. It would be inadvisable for the Red Cross to attempt to influence public sentiment in the creation of a demand for Public Health Nurses, as it is bound to do, if it did not at the same time do something to see that such nurses would be available when required.

As Public Health is essentially under the jurisdiction of the Provincial authorities, and as there are Universities located in the capitals and other cities of the Provinces, the various Provincial Branches of the Red Cross Society have been in consultation with local Universities and Provincial Health Departments looking to such co-operation as may lead to the establishment of courses of instruction in Public Health Nursing for the purpose of extending the training of regularly qualified nurses in this direction. Arrangements have already been made for such courses at Dalhousie University, Nova Scotia, and at the University of British Columbia.

Editorials

Community Recreation

IT is of more than passing interest to note that the Canadian National Council for Combating Venereal Diseases has communicated with the various Chief Officers of Health for the provinces calling their attention to the necessity for promoting healthful recreation as a preventive of venereal disease. The Toronto Branch of the Council has also requested the Toronto Playgrounds Association to make a survey of the situation as regards organized recreation in Toronto.

Recreation is not only a preventive of immorality and venereal disease; it is a national human need for all classes and ages of society. A community without recreation is an unnatural community and where unnatural conditions are, there disease flourishes. The supervised dance, football, baseball, cricket or any other active recreation where one plays rather than watches are types of recreation that are not only desirable but necessary in healthy happy communities. Such recreation provides an outlet for man's natural play instinct. Served up in adequate quantities it is an antidote to the evils of industrialism. It may be utilized to lure the care-worn dwellers in sordid city boarding-house districts to care-free ozone breathing hours whence tuberculosis and its terrors are unknown. "*Mens sana in copore sano*" is an ideal for all, but an ideal which will be more readily attained by the lithe-limbed and clear-eyed than by the flabby and anaemic.

Play all should have and in wholesome quantities—the question is how. A national playgrounds association we have not. Some local associations there are, but their activities are sporadic. The conclusion is obvious. Recreation makes for health. Our health officials are many and active—Dominion, Provincial and local. Theirs is the duty. The PUBLIC HEALTH JOURNAL feels that an early survey of recreational facilities throughout the country on the part of Departments of Health with the idea of working out a definite recreational policy would be productive of wonderful results. Past errors of omission would, doubtless, be found to be of a startling character but the possibilities of advance limitless. Surely the time is ripe for us to make a start.

Industrial Hygiene

INDUSTRIAL HYGIENE is a comparatively new field in medicine. It is only a short time since the average physician looked somewhat askance at his professional brother in industrial work. To-day the picture is different and the development of a great new branch of preventive medicine opens up new and worthy opportunities for the best brains in the profession.

Frank Leslie Rector, writing in a recent number of "Modern Medicine", states that among the forty million industrial workers in the United States there are two million lost time accidents yearly entailing a loss of time of more than one day each. "Of this number 750,000 sustain a disability of more than four weeks' duration. About 22,500 are killed and from 15,000 to 18,000 more suffer permanent disability. This loss is estimated to be more than 18,000,000 man-days per year or the working time of more than 60,000 persons. Each industrial worker is sick on the average eight days per year, which amounts to the time lost of over a million working people for one year." The resultant loss of wages is incalculable to say nothing of the loss in production, the cost of medical attention and the cost to the community of the permanently disabled workers who cease to be self-supporting. The net result of it all is a tremendous problem in preventive medicine, the solution of which calls for work on a large scale carefully planned and executed.

The successful industrial physician must be an organizer and an executive. His intellectual armamentarium must include education of the broadest type as to disease and its causes, particularly social and industrial. He must understand the relation of fatigue to poor ventilation, bad lighting and faulty posture. He should be familiar with occupational poisons. He must realize the necessity for carefully planned recreation for employees as well as many problems relating to home conditions, proper food and clothes, and hours of work as well as personal and community hygiene and sanitation.

His general problem is the stimulation of activities which will produce contented and healthy workers. That industrial corporations are learning the simple lesson that it pays to keep employees well and happy in terms of production as well as in dollars and cents is a sign of the times. It is the same lesson that countries are only beginning to learn. In teaching great industries the facts as to the cash value of human life and happiness and the possibilities for their conservation, the industrial physician is doing a piece of work which will have the greatest influence in disseminating a point of view which must become general if the physical and mental standards of humanity are to reach the height which nature intended them to attain.

Sir William Osler*(In Memoriam)*

By FREDERICK L. HOFFMANN, LL.D.

Over the mystic sound-waves
Of the wintry ocean air,
There has come to me the saddest news,
That leaves me in despair.
Sir William Osler died to-day
And I feel the sun has set;
In the city of dreamy spires
Where but yesterday we met.
To-night as I watch the afterglow
I dream of other days,
Recalling Osler's kindly arts
And his ever gentle ways.
He never missed a chance to say
A word of cheer to me,
Encouraging my efforts,
As restless as the sea.
I fain again would call to life
The golden hours we knew,
The helpful lead he ever gave
To those who dared to do.
Once more I seem to hear him urge
To fight some ill or ague,
His rallying cry in old McCoy*
To end the Great White Plague.
Again we met in Baltimore†
To dedicate to all
Afflicted with some mental ill
The Phipps Memorial Hall,
A noble gift, indeed the best
Of many a charity,
A wondrous realm of human skill
Is the art, psychiatry.
Sir William in his happiest moods
Looked forward to the day
When ignorance and quackery
At last would pass away;
When medicine triumphant,
The best of thought and will,
Would serve the needs of all mankind
By curing every ill.

* February 1904.

† April 16, 1913.

When Sir William left for Oxford
I felt that he had found,
The ideal place to realize
Aims lofty and profound.
It was a noble setting
For a truly noble life,
This dreamland seat of learning
Removed from worldly strife.

'Twas here we talked of men and books,*
Of medicine and art,
Of finance and of politics,
For all are but a part
Of life's transcending mystery
And ever-changing scene,
From peace to war and back to peace,
Sweet, beautiful, serene.

In a corner 'midst the bookshelves
I found treasures rich and rare,
Old Browne's "Religio Medici",
And his critics, mostly fair.
The "Dance of Death", by Holbein,
A great man of a time,
Recalled in fervent discourse
By Sir William, near sublime.

In the Halls of "Corpus Christi",
In "All Souls" and "Oriel",
Sir William was as much at home
As in the land he loved so well.
In glowing terms he would recall
Some function or some feast,
Or praise the architecture
Of "St. Peter's in the East".

I never knew a soul so rare,
A mind so far above;
The sordid ways of human life
The death of faith and love.
He served a cause or human want
By many a generous deed,
He lived, in the words of the Master,
A truly Christian creed.

* September 13-14, 1919.

